

## CLAIMS:

1. A detector arrangement with a plurality of detector elements or image pixels, which each have an integrated SD modulator (20 to 29), wherein the SD modulator (20 to 29) has a differential design and/or a plurality of stages.
- 5 2. A detector arrangement as claimed in claim 1, wherein the SD modulator (20 to 29) is extended with a decimation filter (30) to a SD- A/D converter.
3. A detector arrangement as claimed in claim 1, wherein the detector elements or image pixels as well as the SD modulators (20 to 29) are realized on a CMOS-10 semiconductor structure.
4. A detector arrangement as claimed in claim 1, wherein the SD modulator (20 to 29) has a current feedback (20) on the signal of the detector element with an SC current source.
- 15 5. A detector arrangement as claimed in claim 1, wherein a cascaded arrangement of SD modulators (20 to 29) in at least one detector element or image pixel is provided (29).
- 20 6. A detector arrangement as claimed in claim 1, wherein the SD modulator (20 to 29) has an Auto- Zero- Comparator (29).
7. A semiconductor-based image sensor with a detector arrangement as claimed in claim 1.
- 25 8. An X-ray detector with a detector arrangement as claimed in claim 1.
9. An X-ray apparatus, particularly for computer tomography, with a detector arrangement as claimed in claim 1.